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DISSERTATION

ON

ANGINA PECTORIS.

THE UNIVERSITY OF CHICAGO


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AN
INAUGURAL DISSERTATION
ON
ANGINA PECTORIS.


BY HENRY BOGART, A. B.

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UNIVERSITY OF NEW-YORK.


NEW-YORK :

PRINTED BY C. S. VAN WINKLE,

No. 122 Water-street.

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1813.

AN
INAUGURAL DISSERTATION
ON
ANGINA PECTORIS

SUBMITTED
TO THE PUBLIC EXAMINATION
OF THE
TRUSTEES OF THE COLLEGE OF PHYSICIANS AND SURGEONS

IN THE STATE OF NEW-YORK,
SAMUEL BARD, M. D. PRESIDENT,

FOR THE
Degree of Doctor of Medicine,

On the 4th day of May, 1813.

TO

JOHN BOGART, Esq.

OF ALBANY,

THIS

DISSERTATION IS INSCRIBED,

AS

A TESTIMONY

OF

SINCERE GRATITUDE, BY HIS

AFFECTIONATE SON.

Dr. J. C. Warren
Prof. Le

with sentiments
of high respect

from the

author

TO THE HONOURABLE

STEPHEN VAN RENSSELAER, Esq.

THIS

DISSERTATION

IS SINCERELY INSCRIBED,

WITH ALL THE FEELINGS THAT THE HIGHEST RESPECT AND

ESTEEM CAN INSPIRE, BY

THE AUTHOR.

TO

DAVID HOSACK, M. D.

F. L. S. LONDON ;

Professor of the Theory and Practice of Physic and Clinical Medicine, and Lecturer on Midwifery, in the University of New-York ; Fellow of the American Philosophical Society, and of the College of Physicians at Philadelphia ; Member of the Literary and Philosophical Society of Preston ; Honorary Member of the Royal Medical and Physical Societies of Edinburgh ; Corresponding Member of the Medical Society of London, &c. &c.

SIR,

I KNOW no one to whom I can, with more propriety, dedicate the following dissertation than to you. I am impelled to this equally by gratitude, for the kindness with which you have ever watched over my medical studies, and deference, for the elevated rank you hold in the profession to which you belong. The time I have spent under your care will always furnish topics grateful to recollection. Be assured, Sir, that I acknowledge with pleasure and with pride the interest you have manifested for my welfare.

Your friend and pupil,

HENRY BOGART.

TO

JOHN W. FRANCIS, A. M. M. D.

LECTURER ON THE INSTITUTES OF MEDICINE AND THE MATERIA MEDICA IN THE COL-
LEGE OF PHYSICIANS AND SURGEONS IN THE UNIVERSITY OF NEW-YORK;
MEMBER OF THE SOCIETY FOR THE PROMOTION OF USEFUL ARTS
IN THE STATE OF NEW-YORK; OF THE NEW-YORK
HISTORICAL SOCIETY, &c.

THIS

ESSAY IS ALSO INSCRIBED,

IN TESTIMONY OF MY SINCERE REGARD,

AND AS AN

ACKNOWLEDGMENT

OF

THE SERVICES HE HAS RENDERED ME.

THE AUTHOR.

PREFACE.

ON the importance of the subject to which the following pages are devoted, there probably exists no diversity of opinion: to have treated it fully and faithfully would have required a portion of time and attention beyond the power of a student to appropriate to it. The chief object of the writer therefore has been, to exhibit a concise view of the nature and character of the disease, and to offer such a mode of practice as seemed best calculated to mitigate its severity, and to effect its removal. For this purpose, he has carefully examined the different writings of the various authors on *Angina Pectoris* to which he could obtain access, and from the whole made a selection of those facts and opinions which appeared more particularly to throw light on its peculiar character. In most instances, with the facts and opinions which he has introduced, he has given the authority upon which they are supported; so that the reader will be the better enabled to estimate their relative value. This, too, was but an act of common justice to the respective authors.

The writer thinks proper also to mention, in this place, that in several respects he was materially facilitated in his inquiries by the manuscript notes, on this subject, in the possession of his late fellow student, Dr. Isaac Roosevelt, a graduate of this University.

New-York, May 1st, 1813.

A
DISSERTATION
ON
ANGINA PECTORIS.

It is somewhat singular, that a disease characterised by such peculiar symptoms as belong to that which is now generally known by physicians under the name of *angina pectoris* should have escaped the attention of the ancients; and that we should be indebted to authors of comparatively late times, for all that has been written on it. Yet such is the fact. Of late, however, it has engaged the attention of many distinguished medical men, and much important information has been communicated, relative to its peculiar character. In the year 1763, Dr.

HEBERDEN read before the college of physicians of London, an account of a disease of the breast, distinguished by very peculiar symptoms, and which he published in the second volume of their Medical Transactions.* He denominated it *angina pectoris*, on account of the part affected, and the sensation of strangling and anxiety with which it was attended. Mention is here made of Dr. HEBERDEN's communication as the first, because to him unquestionably belongs the honour of giving the most accurate and well defined symptoms of the disorder, and of particularly directing the attention of others to the same subject. It appears, however, to have been observed some years before Dr. HEBERDEN's publication, for he states, that when it first engaged his attention, not finding a satisfactory description of it in books, he consulted an able physician of long experience, who informed him that he had known several ill of it, and that all of them had died suddenly.† Cases of a disorder,

* Medical Transactions of the College of Physicians in London, vol. ii. p. 59.

† Page 62.

in many respects similar to that described by Dr. HEBERDEN, are recorded in the works of HOFFMAN and MORGAGNI, two of which are worthy of notice. In the *Consultationes Medicæ*, under the head *de asthmate, et spasmo præcordiali a motu corporis*, we find the following:

Vir quidam septuagenarius, sanguineæ constitutionis, quanto exercitio in juventute multis itineribus, aliisque negotiis corpus commovere sueverat; tanto quoque otio, vitæ sedentariæ, multisque laboribus mentis stipatæ, ætate magis proveciori indulgere cœpit. Sub hoc vivendi genere vires corporis pariter ac animi semper manserunt integræ, bona ciborum adpetentia; somnus quietus, ac satis regulare alvi officium, et insuper ad præservanda majora mala, quotannis bis venam præbuit secandam. Neque tamen minus aliquot abhinc annis de dolore tensivo atque gravativo, a scrobiculo cordis per sterni tractum ascendente, ac præcordiorum anxietate, spirandique difficultate stipato conqueri cœpit. Ingravescunt hæc symptomata potissimum sub quocunque cor-

poris motu ; si nimirum vel obambulet æger, vel scalas ascendat, vel etiam vestes induat ; adeo, ut sæpius penitus inter ipsum motum ab illo abstinere teneatur : et hinc quietus, ab eo symptomate prorsus immunis sit. Neque minus post cibos flatulentos assumptos, vel potam cerevisiam, insignis constrictio atque dolor circa ventriculum atque pectus percipitur, et non nisi eructatis ructibus allevatur.*

The result of the case is not given ; but from a comparison of its symptoms with those which will be described as essential to angina pectoris, no doubt can arise in regard to its being a genuine example of that disease. MORGAGNI's description is more minute : he relates, that a nobleman, aged more than fifty years, about the beginning of May, in the year 1730, came to Padua for the purpose of consulting him and another senior physician : he informed them, that from the time he had repelled an eruption of the scabies kind by sul-

* Consultat. Medicæ ; casus lxxxiii. vol. i. p. 385.

phur ointment, from that time, and it was now ten years since, he had been by degrees subject to a sensation of weight and constriction, which he compared to that which the stoppage of a large bolus, in its passage through the œsophagus, would occasion ; that this sensation seemed to be situated in the internal part of the thorax, opposite to the middle region of the sternum, except that sometimes, though but seldom, it was extended so far as to correspond with the lower part of the sternum, and that his respiration was somewhat injured, and a very heavy kind of stupor was diffused through each of his superior limbs : that, at the commencement of his disorder, he had felt this sensation only when he walked, especially up steep places, but afterward also, when he bent himself forward and remained in that position : that it very seldom attacked him in the summer, or before dinner, but more frequently in the winter, and after dinner, and when he was going to bed : that for the most part, it vanished soon if he stood upright ; but in the last winter, when it had

awakened him out of sleep, which had never happened before, that it continued two or three hours, although he had risen out of bed. However, he neither perceived any pulsation, nor had an intermittent pulse, yet his pulse was frequent and cord-like, that uneasy sensation not being entirely gone off, when we inquired into their state; at which time also, by pressing the hand close to the left nipple, the heart appeared to beat a little stronger than was natural.* Dr. PARRY, who has written a treatise on this disease, has selected three instances of it from the same author. His omission of the preceding case is surprising, as it is more circumstantial and satisfactory than any of those which he has quoted.

A case is also recorded in the *Chirurgical Observations* of P. MARCHETTI, and quoted by LANCISI. "The patient seems to have laboured under the symptoms of angina

* De Sed. et Caus. Morb. epist. 17, § 32.

pectoris, as they are exactly and eloquently described by Dr. HEBERDEN. On dissection, the heart was found three times its natural size, and the pericardium adhered in many places to the pleura, and even to the diaphragm, so as to weigh it down and occasion a fulness in the hypochondria.”*

These cases are sufficient to prove, that the disorder had been observed some time before Dr. HEBERDEN. It was his publication, however, that gave rise to a spirit of inquiry on the subject. The complaint frequently appeared, and interesting observations were soon made and recorded respecting it, by many eminent physicians, especially by Drs. WALL, FOTHERGILL, and PERCIVAL. Treatises have since been written on it by Drs. PARRY and BUTTER of Great Britain; the former calls it syncope anginosa, the latter diaphragmatic gout; and by ELMER and SCHMIDT of Germany. ELMER and SCHMIDT consider it as a

* Mem. of Med. Soc. Lond. vol. 1, p. 385.

species of asthma, and distinguish it by the names asthma convulsivum and asthma arthriticum. Dr. DARWIN also takes the same view of it, and calls it asthma dolirificum. The theories and opinions of these writers may, perhaps, be examined with more advantage, after the investigation of the symptoms of the disease. It may be observed in this place, that we shall adopt the name by which the disorder was first designated. It is taken from a principal symptom, and is therefore preferable to those which have been founded on hypothetical views.

Symptoms of the Disease.

The attacks of angina pectoris are, in most instances, sudden, and occur in those who have previously enjoyed perfect health. In a few cases, various painful affections of different parts of the body have been observed to precede them. Spasms and indigestion of the stomach, and pains in the limbs, are not unusual, which are, for the most part, removed, or diminished in violence, on the appearance of the

disease, the first symptom of which is an acute pain or stricture, commencing in the region of the sternum, and shooting, with peculiar pungency, in the direction of the pectoral muscle, confining itself chiefly to the left side, and sometimes affecting the left arm.* In two cases recorded of this disease, the sensation in the superior extremities was compared, by the patients, to the rushing of a hot fluid; very often it is that of a numbness only: it is generally noticed when the disorder is considerably advanced, though sometimes it is altogether absent; being by no means, as Dr. PARRY observes, essential to angina pectoris. The patient is usually seized in this manner while walking, or on going up an acclivity. Though the pain is violent, and comes on suddenly, yet it generally is of short duration, and, in some instances, hardly engages the attention of the patient.

* In twelve or thirteen persons, whom Dr. WALL had seen, the pain was in the direction of this muscle, affecting one, or commonly, both the arms. It is remarked by Dr. HEBERDEN, that a soreness has been felt in these parts.

A case, however, is related by Dr. PARRY, of the Rev. Mr. S. in whom the pain continued from the first attack of the disease until its fatal termination, and in which it was, without an interval, subject only to exacerbations.* On standing still, the pain in the commencement of the complaint ceases; but, after repeated paroxysms, it remains for some time, accompanied with oppressed breathing, anxiety, sighing, palpitation of the heart, and coldness of the extremities; an agonizing struggle for existence ensues, attended with an apprehension of instant death.

This pain, or constriction, comes on in paroxysms, which, in the beginning of the disease, do not take place so frequently or so intensely as when it is more advanced.

The paroxysms of this affection, as to their duration, are also various; they, at one time, \

* Inquiry, p. 14.

terminate in a few minutes, and, at another, last hours, and even days, and occasion the severest distress. Dr. HEBERDEN met with one case, in which the paroxysm continued for several days.* Dr. BLACK, of Newry, Ireland, has recorded a very interesting example of the disease, the last paroxysm of which commenced on Friday morning, and lasted till Sunday evening. When I visited my patient, says the author, I found him in exquisite torture; the pain was constant, but every minute, or every two minutes, it shot with peculiar violence and pungency from the left breast towards the scapula, producing each time a convulsive start, in which every muscle in the body seemed to be affected. He continued in the greatest agony till four o'clock, Sunday evening, when he expired.† Repletion of the stomach, walking, the indulgence of the passions, especially those that are violent or attended with anxiety, are frequently their exciting causes. In the case

* Med. Trans. vol. 2. p. 62.

† Mem. Med. Society of Loud. vol. 4. p. 267.

of Mr. J. HUNTER, the spasm was most usually excited by anxiety, or by the indulgence of the violent passions: the more tender affections of the mind did not produce it; he could relate a story which called up the finer feelings, as those of compassion and admiration, so as to make him shed tears, without suffering from a return of the pain.* But, as the disorder proceeds, no particular cause is essentially necessary for the return of the paroxysms. The pain is often relieved by eructations of wind, by straitening the vertebræ of the thorax, and by resting after a full inspiration. It is always increased by motion and mental irritation.

No uniformity is observed in regard to the state of the pulse during the paroxysms. It may be remarked, however, that the best written histories of the disease, do not afford satisfactory information on this point. It is represented to be sometimes not materially affected. In two cases, recorded in the Medical

* HOME'S Life of HUNTER.

and Physical Journal, vol. 6. p. 321. the arterial system was not much affected, even during the fits of pain and oppression, although the patients suffered little short of suffocation; and HEBERDEN also observes, that sometimes it is not in the least disturbed.* At other times, essential deviations from its healthy state have been noticed, the circulation being much affected, the pulse contracted, small, and irregular. Its condition probably varies, and depends on the severity and duration of the pain; yet, there can be little doubt, that the pulse must, at times, give evidence of disturbed circulation. Dr. HOSACK, who has frequently met with the disease, mentions, that, in the case of a patient whom he attended, and who had suffered repeated attacks, the pulse was remarkably hard. In the intervals of the paroxysms, it is regular and natural, and the patient is free from every symptom of the complaint.

* Diss. Med. de Angina Pect. auct. C. J. SCHMIDT, in Annals of Med. vol. 1. p. 198.

Diagnosis.

It would, perhaps, be difficult to express, in a concise and accurate manner, the distinguishing character of the disease. It may be sufficient to state, that it consists in a sharp constrictive pain across the chest, which supervenes in general upon muscular motion. A variety of complaints have been confounded with it, but principally asthma, hydrothorax, and those which arise from organic affections of the heart. The first is characterized by frequent and short respiration, with a wheezing noise and cough, symptoms which have never been observed in angina pectoris; the second is attended by a constant difficulty of breathing, which is increased on assuming the horizontal posture; and the last are accompanied "by a long train of frightful symptoms, distinguishable by the most superficial observer."*

* Vid. Cases of Organic Diseases of the Heart, by J. C. WARREN, M. D. p. 61.

Causes.

As a diversity of opinion exists with respect to the causes of angina pectoris, it may be proper to notice cursorily, the different conjectures of authors concerning them. Dr. HEBERDEN concluded, that the principal symptom was produced by a convulsion of the part affected: the sudden manner of its coming on and going off; the long intervals of perfect ease; the relief afforded by cordials, and the influence of the passionate affections of the mind, &c. are his reasons for considering it of a spasmodic nature.* Being unable to find, on dissection, any mal-conformation, or morbid destruction, of parts necessary to life, he could not point out the particular seat or cause of the disorder.

Dr. WALL, having discovered indurations of the semi-lunar valves at the origin of the aorta,

* Med. Trans. vol. 2. p. 62.

with other diseased appearances of the heart, in the case of a person who was sixty-six years of age when he died of the disease,* attributed the origin of the complaint to the rigidity of those valves. Dr. WALL also supposed the affection of the pectoral muscle to be spasmodic, arising from an irritation on the nerves of the thorax; and the seat and diffusion of the pain, he explained on the principle of nervous connection, particularly by the distribution of the branches of the sympathetic or intercostal nerves. Dr. MATTHEW BAILLIE maintains a similar opinion relative to the induration of the valves of the heart. A variety of other morbid appearances has been noticed as causes, such as preternatural accumulations of fat† about the heart, and an enlarged state of that organ.

Spasm of the heart, excesses of passion and anxiety, and a gouty humour, are also men-

* Med. Trans. vol. 3. p. 16.

† Vid. M'BRIDE, in Lond. Med. Obs. and Inq. vol. 6. p. 9.
See also Amer. Med. and Phil. Register, vol. 2. p. 471.

tioned among the causes of the disease. Dr. FOTHERGILL was of the opinion, that the excesses of passion and anxiety contributed more to the increase of the disorder than a combination of all the other causes.* The first attack of Mr. HUNTER's complaint was produced by an affection of the mind, and every future return arose from the same cause.† From the testimony of Mr. CORVISART, physician to the emperor of France, and that of other physicians, and from common opinion, (the familiar expression, a broken heart) we have reason to conclude, that organic diseases of the heart are often occasioned by the long indulgence of the vehement emotions of the mind; but those diseases do not resemble, in their symptoms, angina pectoris, as has been already observed.

The gout has sometimes been casually conjoined with angina pectoris, but it has by no means a necessary relation to it. The opinions

* Med. Obs. and Inq. vol. v.

† HOME's Life of HUNTER.

of Dr. PARRY merit more attention ; his theory is, that the tendency to the complaint arises from induration of the coronary arteries of the heart ; that this kind of mal-organization acts by diminishing the energy of that organ ; he therefore considers the disease a case of syncope.

1st. In regard to the ossified coronaries, it may be objected, that they have been found in the cases of patients who had none of the symptoms which are essential to angina pectoris.

“I wish we could know (says MORGAGNI) what peculiar inconveniences had been felt by those in whom the coronary arteries were bony. At length, when I read these things over again, and examined the several observations that are extant by the most celebrated men, concerning this very disorder of the heart, first by SENAC, secondly by PLAUCUS, and last of all by HALLER, I observed, that the first and second were taken from men who

had been subject to a palpitation of the heart ; and although in the second, as I have before related, other evident causes of palpitation were not wanting, yet the first particularly showed whence this palpitation had arisen, at least in that case, as it did not exhibit any appearance of disorder, except that of the coronaries which had become bony, and formed branches like those of the coral.”* From the testimony of MORGAGNI and SENAC, we learn, that the works of BIANCHI and DERDIER, contain examples of ossified coronaries, which were attended with only one symptom, which was a palpitation of the heart. In Dr. WARREN’S cases of organic diseases of the heart, mention is also made of diseased coronaries ; but the symptoms which accompanied them had no relation to the disease in question. If, however, it be said that other derangements of the heart were present in those cases, it may be answered, that in all the instances which

* De Sed. et Caus. Morb. epist. 26. art. xvii. § 2.

Dr. PARRY has adduced to prove the truth of his opinions, many preternatural appearances were also observed ; such as accumulations of fat and of serum, ossification of the valves, &c.*

2dly. In a number of well distinguished cases of the complaint, as furnished us by Doctors HEBERDEN, WALL, FOTHERGILL, MORGAGNI, PERCIVAL, and JAMES JOHNSTONE, the coronary vessels were found in their natural state.

To this argument Dr. PARRY replies, by observing, that in *these* they were probably not examined ; that it is hardly possible to discover them without cutting down to them, or attempting to introduce some substance into their cavities. This, however, was done by Dr. HOSACK, in a case which not long since occurred in his practice ; the result of which,

* Vide Inquiry into the symptoms and causes of the syncope auginosa.

with an account of the dissection, is recorded in the American Medical and Philosophical Register.* In that case no disease of the coronary arteries existed. In the description of a case in the Medical and Physical Journal,† it is expressly said, that the coronary vessels were free from disease.

Diseased coronary arteries no doubt have been found, on dissection, in the hearts of those who have died, at an advanced period of life, of angina pectoris; but it is probable they would not occasion much inconvenience, even if their cavities were entirely obliterated. This supposition is strengthened by the fact, that in most instances, in which they have been discovered, the heart was unaltered in firmness and size. From the supposed diminished energy of the heart, by the above mentioned cause,

* Vol. ii. p. 471.

† Vol. xvi. p. 487—vide also the New-England Journal of Med. and Surg. vol. i.

Dr. PARRY was induced to consider the disease a case of syncope or fainting, differing from the common syncope, only in being preceded by an unusual degree of anxiety and pain in the region of the heart.

It differs from the common syncope in many other respects. During the paroxysms, the respiration and pulse do not become weak or suspended as in fainting: on the contrary, the pulse is sometimes remarkably hard; the functions of sense and motion are generally unimpaired, and palpitation of the heart is not unfrequently noticed.

Many peculiarities distinguished the cases observed and recorded by Dr. PARRY. The duration and termination of the disease, and the ages of his patients, were especially remarkable. These circumstances may perhaps afford an explanation of the novel idea he entertains, and his future experience will probably correct the errors which have proceeded from a too limited view of the subject.

I trust I shall be excused from any imputation of vanity in thus freely examining the theory attempted to be supported by so distinguished a writer as Dr. PARRY. His opinion of the nature of angina pectoris has, I know, many able advocates, among whom I may mention, Dr. JOHN AUGUSTINE SMITH, professor of anatomy and surgery in the college of physicians and surgeons, New-York.

Doctor HOSACK, who has repeatedly met with cases of angina pectoris, taking into view the season of the year, time of life, and habit of body in which the disease occurs, is of opinion, that it proceeds most generally from *plethora of the blood vessels, more especially from a disproportionate accumulation in the heart and larger arteries.** He considers the large accumulations of fat, the effusion of water in the thorax and pericardium, the distended state of the vessels, and even the bony deposits occasionally met with in the valves

* American Med. and Phil. Reg. vol. ii. p. 366.

and vessels of the heart, as the effects of such plethora.*

We observe in confirmation of his opinions, that almost every writer on the complaint, has commenced his cases by remarking the age and habit of the patient. The advanced life and corpulent habit are of so frequent occurrence, that no doubt can be entertained of their relation to the disease. The season of the year at which the first attack commenced, is not recorded with the same particularity; but when noticed it was most usually in the winter and spring of the year.† Most of the patients afflicted by the disorder, had lived in a sedentary manner. Spontaneous discharges of blood, from different parts of the body, giddiness, and numbness of the extremities,

* MS. Lectures on the Practice of Physic.

† Vide Med. Mem. vol. i. p. 376; also the same, vol. iv. p. 261; New-England Journal, vol. i.; Med. and Phys. Jour. vol. xvii. p. 9; also cases of Rev. Mr. S. and Mr. M. in PARRY'S Inq.

were often observed, and are all evidences of a plethoric state of the system.

The case of a gentleman who had been under the care of Dr. SMYTH of Ireland, in 1760, is in point. It was a genuine angina pectoris, brought on by a very sedentary life and great vexation of mind; clearly marked by the exquisite pain under the sternum, that extended acutely to the upper extremities, particularly along the left arm, together with the other symptoms of dyspnœa, anxiety, palpitation of the heart, &c. The disorder went off in 1762, by large spontaneous discharges from the piles, but returned severely in 1765: issues in the thighs were then recommended, but not made. In the mean while, he had large acrimonious gleetings from the scrotum, and profuse ichorous discharges from the anus: from this time his complaints grew less and less distressing, and he has now been totally free from them for six years.*

* M^rBRIDE, in Edin. Med. Comment.

Muscular exertion, the passions, and every kind of irritation, are commonly the exciting causes of the paroxysms of angina pectoris: they tend to return the blood to the heart with great rapidity. That organ is forced probably to make violent and uncommon exertions, to propel the blood which accumulates in its cavities. It does not become quiescent; if that were the case, it would with difficulty regain its irritability: on the contrary, it is stimulated to new and repeated efforts to remove the impediments to its motion; and when these do not avail, the irritation occasions a violent and irremediable spasm, which terminates the agony of the unhappy sufferer.

Dissections.

The dissections of persons dying of angina pectoris, have exhibited the following morbid appearances. The summary is taken from Dr. PARRY'S Inquiry, but considerably altered and enlarged.

Aneurism, or dilatation of the heart,*

Smallness of the heart,†

Flaccidity, and paleness of the heart,‡

Preternatural fatness of the heart, and pericardium,§

Valves in different degrees of induration or ossification,||

* WALL, *Med. Trans.* vol. iii. p. 17; BLACK, *Med. Mem.* vol. iv. p. 268; MORGAGNI, *epist.* xxviii. § 31; Mr. S. in PARRY, p. 23; Mr. M. same, p. 31; RING, *Med. and Phys. Jour.* vol. xvii. p. 9; FOTHERGILL, *Med. Obs. and Inq.* vol. v.; Dr. JOHN WARREN, *New-England Journal*, vol. i. No. 1, p. 9.

† HOME's life of HUNTER, p. 63; WELDON, *Med. and Phys. Jour.* vol. xvi. p. 487; HOSACK, *Amer. Med. & Phil. Reg.* vol. ii. p. 471.

‡ RING, *Med. and Phys. Jour.* vol. xvii. p. 9; JOHNSTONE, *Med. Mem.* vol. i. p. 380; BLACK, *Med. Mem.* vol. iv. p. 269.

§ HOSACK, *American Med. and Phil. Register*, vol. ii. p. 471; BLACK, *Med. Mem.* vol. iv. p. 268; WALL, *Med. Trans.* vol. iii. p. 16 and 17; FOTHERGILL, *Med. Obs. and Inq.* vol. v. p. 239; BELLAMY, PARRY, p. 12; Mr. S. same, p. 23; Mr. M. same, p. 31.

|| WALL, *Med. Trans.* vol. iii. p. 17; HOME, p. 63; PARRY, p. 37.

The aorta about its arch, dilated, weakened, or ossified, or these states variously combined,*

Water in the thorax,†

Water in the pericardium,‡

Ossified coronary arteries.§

In four instances of the disease, the heart and aorta were found in a sound state.|| They surely prove, that angina pectoris

* MORGAGNI, epist. xxvi. § 31; Dr. JOHN WARREN, *New-England Journal*, vol. i. No. 1, p. 9; WALL, *Med. Trans.* vol. iii. p. 18; HOME, p. 63; BLACK, *Med. Mem.* vol. iv. p. 269; PARRY, p. 23; Mr. M. same, p. 32.

† WALL, *Med. Trans.* vol. iii. p. 16; FOTHERGILL, *Med. Obs. and Inq.* vol. v. p. 239; BELLAMY, PARRY, p. 11.

‡ *American Med. and Phil. Reg.* vol. 2, p. 471; WALL, *Med. Trans.* vol. iii.

§ FOTHERGILL's third patient, *Med. Obs. and Inq.* vol. 5; HOME's life of HUNTER; PARRY's cases of Mr. M. and S. BLACK, *Med. Mem.* vols. iv. and vi.

|| Vide the cases of Dr. HEBERDEN's correspondent, *Med. Trans.* vol. iii.; PERCIVAL's, in *Edin. Med. Comm.* vol. iii.; WELDON, *Med. and Phys. Jour.* vol. 16; also Dr. FOTHERGILL's patient R. M. *Med. Obs. and Inq.* vol. 5.

may take place and terminate fatally, without organic disease of any kind.

The enlargement of the heart, and the other mechanical or organic affections above mentioned, are to be considered as the effects of plethora, or accumulation of blood in the heart and larger arteries.

The excessive contractions of the heart, necessary for the removal of the impediments opposed to the circulation, would naturally produce all the diseased appearances which have been noticed, and when the enlargement of the heart, or when the accumulations of fat, or effusion of serum takes place, the circulation, which was previously oppressed, is still more impeded, and the symptoms of the complaint are increased in violence, and, consequently, soon terminate fatally.

Prognosis.

We should in general be extremely cautious in regard to the opinion we give of this dis-

ease, as it has been observed to be very uncertain in violence, duration, and termination; in some instances, its paroxysms are unfrequent and unalarming for six,* twelve,† and even twenty years;‡ but, in other cases, they have terminated fatally in a few days.

In young persons, and when the disease is gradual in its progress, the hope of recovery may be entertained. According to Doctor M'BRIDE, in a majority of cases, the persons affected were between fifty and sixty years of age; seventeen is the earliest, and seventy-seven the latest period of life at which the disorder has occurred. Dr. FOTHERGILL mentions, that in the case of a person, aged thirty, when first attacked by the disease, that it soon ceased, and had not returned for twenty years, when Dr. F. wrote his paper on the subject. A patient, aged thirty-four, in whom the com-

* WALL, Med. Trans. vol. iii. p. 14.

† BLACK, Med. Mem. vol. vi. p. 43.

‡ HEBERDEN, Med. Trans. vol. xi. p. 63.

plaint seemed hereditary, as his father was affected in the same manner previously to his death, was relieved by issues. Dr. HEBERDEN and other writers have noticed, that young men are affected in a slight degree: there appears to be no instances of its having been of long duration or fatal termination in them.

In advanced life, and in violent cases, it is to be accounted extremely dangerous, but by no means always fatal. Dr. PARRY relates one instance of a patient, upwards of sixty years old, violently affected with the disorder, in whom, for several years, it had ceased to occur.* From a judicious mode of treatment, much alleviation may be expected, and sometimes a permanent cure.

Termination. Dr. SCHMIDT remarks, that the angina pectoris, toward its close, frequently affects the lungs, patients becoming subjected to cough, who had none before, and expectorating a puriform matter, pro-

* Page 146.

ducing either suppuration or exhaustion. A case is recorded in the fourth volume of the Medical Memoirs, in which a severe dry cough came on suddenly, and continued incessantly twelve or thirteen hours, when it went off as suddenly. The stomach of the patient rejected every thing, and he continued in the greatest agony till he expired. In one instance, on the occurrence of the pneumonic symptoms, the angina pectoris entirely disappeared, and large hemorrhages from the lungs were the cause of a fatal result. These symptoms being often observed at the conclusion of the disease, they no doubt have some essential relation to it; and on the principle, that angina pectoris does, in certain cases, depend upon a general fulness of the blood-vessels, it seems evident that the phenomena just mentioned, will find a ready solution. More frequently, however, the unhappy sufferers in this complaint anticipate a sudden death: the sensation which they feel, appears to them to be incompatible with

the due performance of the powers of life. I have often felt, said Dr. HEBERDEN's correspondent, what I can best express by calling it an universal pause within me of the operations of nature, and when she has resumed her functions, I have experienced a sudden shock at the heart.

The completion of the fatal termination has sometimes been hastened by the indulgence of the violent passions. A patient of Dr. FOTHERGILL in a sudden and violent transport of anger, fell down, and expired immediately. The case of JOHN HUNTER is too well known to need repetition. Often the last paroxysm is protracted; the symptoms gradually increased, and existence is willingly resigned.

Cure.

Instances of the angina pectoris have frequently occurred : its symptoms and causes have been investigated ; but small is the pro-

gress which has been made in the discovery of remedies necessary for its cure.

The question naturally arises, to what is this to be attributed ? Previously to our answering, we shall examine, in as concise a manner as may be consistent with perspicuity, the principles on which the different modes of cure have been proposed, and the success that has attended them.

Doctor HEBERDEN considered spasm as the cause of the complaint, and, therefore, prescribed those medicines which relieve and quiet convulsive motions ; opiates effectually prevented or weakened the night fits. Bleeding, vomits, and other evacuants were of disservice in his hands ; it is not mentioned whether they were used during the paroxysms, or in the intervals.

The advocates of the theory that the disorder is occasioned by an accumulation of fat about the heart, endeavour to remove or di-

minish it by evacuating the thinner fluids of the body, by means of issues, and by increasing the secretions.

Dr. PARRY, who attempted to prove that ossification of the arteries depends on an increased impetus of blood, more especially when amounting to inflammation, supposed that abstinence from bodily exertions, and attention to the means of obviating an inflammatory diathesis, would have considerable effect in preventing the organic lesion of the coronary arteries.

On the attack of this malady, his first indication is to obviate the fulness of the vessels, which acts by oppressing the heart, weakened by disease, and deficient in energy. Regimen and medicine are the means used for that purpose ; of the latter, he recommends bleeding, purging, and issues.

Speaking of blood-letting, he remarks, that it must be employed with great caution ; that

a degree of stimulus may be left, sufficient for the purposes of healthy circulation. He confesses that he is unacquainted with the actual effect of that remedy.

Purging appears to him to disorder the circulation in so great a degree that it cannot be safely employed.

In cases where there may be reason to suspect plethora, issues are recommended, especially when danger is to be apprehended from the more speedy evacuation by venesection. During the paroxysms, in cases of imminent danger, he advises bleeding, the use also of purgatives and enemata. Stimulants he observes can be safely taken, only so far as they may be required to remove flatulency from the stomach ; or their use should be referred to that period, when, after the failure of the other means suggested, the pulse is not at all, or scarcely to be felt.

In fine, Dr. PARRY regrets, that the most important part of his subject, that which re-

spects the cure, or relief of the complaint, should have been so defective.

On the supposition, that a diminished energy of the heart is the cause of the disease, the *argentum nitratum* has been prescribed: taken into the stomach, it was supposed to produce its effects through the medium of the nerves.

FOWLER'S solution of arsenic, the application of a solution of the tartrate of antimony to the breast, *cicuta*, *hyosciamus*, and other narcotics, are all said to have been used with some advantage.

Dr. SCHMIDT observes, that the radical cure is very difficult, especially if the disease has been of long duration, but that it is not to be considered as an incurable disorder; he had met with several instances of patients who had labored under it and were restored to perfect health. Regarding it as a case of spurious gout, he has two indications of cure, which it would be needless here to mention. The *angina pectoris* can have no farther rela-

tion to the gout, than as this latter disease depends upon an overloaded condition of the vessels, which, indeed, is one of its most common causes.

We have thus stated, as far as the limits of an inaugural dissertation will permit, the respective modes of cure adopted by different writers. That they should have differed so materially, was to be expected from the different views entertained by medical men as to the nature of the disease. Regarding some one remarkable symptom or appearance as characteristic of the disorder, to the exclusion of other, equally important, they have necessarily, in many instances, limited their view, and been inadvertently led into error.

We have already given the particular opinions entertained by Dr. Hosack relative to the nature and treatment of angina pectoris: the successful result of his practice in the complaint appears to afford sufficient evidence of their correctness. The remedies

which he prescribes, with most advantage, are those which are calculated to diminish the fullness of the system : for this purpose he has recourse to copious and repeated blood-letting, active cathartics, as jalap, calomel, gamboge, and other evacuants; and for the removal of the spasm, palpitation of the heart, and coldness of the extremities, æther, volatile alkali, the compound spirits of lavender, and other diffusible stimuli, are exhibited. Opiates, by lessening, and occasionally suspending the spasm, are also used with advantage, especially after blood-letting has been freely employed. Warm bathing and friction of the extremities, from the experience of their beneficial effects, are also highly useful by promoting circulation in the extremities, and a determination to the surface of the body, and thereby proportionally diminishing the fulness of the heart and larger vessels.

Independent of the medicines here recommended, our chief hope for preventing the returns of the disease must be placed in the diet

and regimen. The diet of the patient should be plain, easy of digestion, and composed of a due proportion both of animal and vegetable food ; but the use of wine, ardent spirits, and especially malt liquors, and the usual condiments of the table, should be carefully avoided, or very sparingly taken ; late suppers should also be totally prohibited.

Regular and daily exercise, flannel worn next the skin and frequently renewed, by their effects in promoting the excretions, no less contribute to counteract the plethora to be guarded against.

A controul of the passions, as has before been observed, is no less necessary to prevent a return of the paroxysms of this disease.

FINIS.

